



# Landscape-Level Planning & Policy for Wetlands & Forests

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ESPM 4041W: Problem Solving for Environmental Change

Report 4/8 Prepared for the City of Shoreview by:

Samantha Iaizzo  
Kenzie Johnson (Co-Leader)  
Chelsea Stein (Co-Leader)  
Josh Weiner

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## Executive Summary

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This report serves as a resource for partnership and collaboration among the City of Shoreview, surrounding municipalities, Ramsey County, the Rice Creek Watershed District, and Grass Lake Watershed Management Organization. These 13 entities share core values founded on natural resource integrity and health; however, there are different approaches to applying these common values across the landscape.

Encouraging collaboration on natural resource issues beyond political boundaries is a first step in planning across landscapes. As seniors enrolled in *Environmental Sciences, Policy and Management (ESPM) 4041: Problem Solving and Planning in Natural Resources* at the University of Minnesota, we collaborated with Shoreview staff in an effort to provide an informational framework to approaching landscape-level policy and planning. We conducted document reviews of municipal comprehensive plans and city codes, as well as personal interviews with city planners, public works directors, natural resource specialists, and others in order to identify opportunities and challenges of landscape-level planning and policies.

We found there is a large overlap among the municipalities as described in their respective comprehensive plans. Shoreview has the most commonalities in their comprehensive plan natural resource goals with Lino Lakes and Roseville and the least commonalities with North Oaks and Circle Pines. In addition, we found there are existing relationships surrounding natural resources among the municipalities, as well as with the county and watershed organizations. These existing relationships are often initiated by shared personnel, a shared natural resource or ecosystem, such as Lake Owasso or urban forests, shared equipment such as sewer and water systems, and finally, shared community events. Additionally, we found ordinances related to natural resource issues vary significantly among cities. Specifically, we looked at issues that have landscape-level implications: snow removal, residential lawn care and run off, tree disease, invasive species, shoreland management, and deer management. Shoreview is most similar to the five communities of Arden Hills, Lino Lakes, Little Canada, Mounds View, and Roseville in regards to the presence of codes addressing these topics. Finally, we found that overall there is a strong interest among cities in collaboration regarding tree disease, invasive species and deer management. Ramsey County also has an interest in assisting and participating in these efforts. Cities that do not share an aquatic natural resource were less interested in collaborating around shoreland management and stormwater runoff. Roseville, Little Canada, and Vadnais Heights, however, each showed strong interest in these areas.

Recommendations for Shoreview as they approach landscape-level policy and planning with their neighboring communities are as follows:

1. Focus initially on a current topic having clear benefits from collaboration such as deer management.
2. Utilize relationships initiated in deer management efforts to address other landscape-level issues while expanding and fortifying relationships.
3. Expand work with watershed organizations to further collaboration with surrounding communities.
4. Maintain collaborative efforts toward landscape-level planning by holding annual workshops to continue relationships for future challenges.

# Introduction

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Within the first pages of Shoreview's Comprehensive Plan, the city identifies guiding principles necessary to incorporate and implement their Community Vision. One of these guiding principles is "Cooperation" defined as "planning with school districts, community organizations, adjacent communities, county, and regional government and, where possible, seek common solutions that are efficient and cost effective" (Shoreview Comprehensive Plan 2008). Enabling this principle to become a reality however, involves extensive planning, communication, encouragement of new ideas, and an open mind. Perhaps most importantly, Shoreview and its surrounding communities could benefit from looking beyond political boundaries and embracing the notion of natural boundaries, landscape-level planning, and regional awareness. Collaboration with the surrounding communities in an effort to plan more comprehensively could encourage relationships built on environmental stewardship, concern for residents' priorities and quality of life, and a more complete understanding of the landscape Shoreview calls home.

This report was compiled by seniors in the Environmental Sciences, Policy and Management (ESPM) degree program. As part of the University of Minnesota course, ESPM 4041 during the fall of 2009, we collected and analyzed information with the planning and policy needs in mind of not only the City of Shoreview, but other municipalities within the landscape. Working in collaboration with city staff from Shoreview as well as each of the surrounding municipalities, Rice Creek Watershed District, Grass Lake Watershed Management Organization, and Ramsey and Anoka counties, we identified commonalities and discrepancies among environmental priorities, as well as challenges and opportunities within the environmental policies, programs, codes, and planning documents of each jurisdiction. Document review and interviews with city staff unveiled common hazards that each authority currently handles individually; however, each jurisdiction and their respective natural resources could potentially benefit from sharing information, resources, knowledge and personnel. It is the hope that this report be used to facilitate landscape-level planning, policy, and decision-making.

Landscape-level planning and policy focuses across jurisdictional boundaries by planning for the needs of communities within a landscape with less emphasis on political borders. Shoreview is a city located ten miles northwest of St. Paul with nine immediate neighboring communities. With 11 lakes, 10 parks and more than 1,000 acres of open space and parkland, Shoreview's natural resources are held in high

regard and have been identified as one of the key reasons the nearly 27,000 residents value their community (City of Shoreview 2009). According to city government representatives and the 2005 resident survey, the City of Shoreview and its community members view themselves as leaders on environmental issues and stewardship. Reaching out to neighboring communities and leading by example would be an excellent way to bolster this leadership role.

Landscape-level planning would involve communication between the city planners, engineers, foresters, and other decision-makers in Shoreview and the surrounding communities. These are the people responsible for creating plans that represent the desires and visions of the cities' residents and goals for enhancing the quality of life and implementing laws and zoning to create a unique look, an efficient layout, and a place that is functional for businesses, residential life, and local government. Planning with the entire landscape in mind is often complicated by competing ordinances, conflicting opinions and inconsistent management. These obstacles can be overcome by acknowledging differences between cities and working to create common planning goals involving policies, ordinances, programs, and budgets (Munroe et al. 2005). Political consistency can lay the foundation for planners and communities in their efforts to cooperate by making landscape-level planning a reality (Warwick 2009). This landscape-level method of planning places less emphasis on political boundaries and would allow the City of Shoreview and surrounding communities to focus on a higher level of planning to the benefit of each community separately and collectively.

Two important factors to consider when planning within and around Shoreview are: (1) the land within the City of Shoreview is completely developed; (2) Shoreview's population has not changed significantly within the last ten years. After steady increases in population from the 1950s through the early 1990s, Shoreview's population growth rate has leveled out. The population existing now is predicted to remain steady for the foreseeable future (Warwick 2009). The current residential and commercial land-use in Shoreview has led to a city that has almost no space left to develop. When cities are completely developed, it is often at the expense of the environment and ecological services provided by wetlands, such as water purification (Pauleit et al. 2005). This environmental impact can be mitigated and minimized through planning and accounting for the negative influences that development can have on the natural environment (Allen 2003). Therefore, the planning efforts put forth by Shoreview, thus far and in the future, are very important for the natural landscape and quality of life in the city.

Effective landscape-level planning includes collaboration with the many other communities and organizations in the area. Collaboration allows the people involved to communicate in a constructive way (Wondolleck and Yaffe 2000). Currently, Shoreview's staff rarely creates plans and policies involving other communities unless there is a relatively immediate issue or problem. By establishing a proactive collaboration exchange, issues could be brought forth in a setting conducive to communication and problem-solving. In Shoreview's case, this means that each of the neighboring communities, Anoka and Ramsey counties, as well as Grass Lake Watershed Management Organization and Rice Creek Watershed District each have something to contribute and a voice in this process. In essence, collaboration is building bridges between communities, agencies, and private parties that enable them to work through common problems, handle conflicts, and foster innovative thinking and strategies for landscape-level protection and development (Wondolleck and Yaffe 2000).

The potential benefits of collaboration are numerous. Creating lines of communication among the city governments, counties, watershed organizations, and residents can get issues out on the table that are important to each stakeholder. Sharing knowledge about these issues leads to the identification of challenges and opportunities (Wondolleck and Yaffe 2000). City managers and planners have the potential to increase the efficiency and effectiveness of their policies by eliminating or reducing redundant and conflicting policies and programs as well as by pooling resources for common interests. Additionally, collaboration can assist in establishing each party's position on an issue, such as respective snow removal processes on municipal and country roads within the same vicinity or managing tree disease within a shared forest. The first step in coming to an agreement is knowing where there is common ground and where there are differences in ideas for planning and goals. Collaboration allows relationships to develop among resident stakeholders and between community government stakeholders (Wondolleck and Yaffe 2000). The communication and relationships foster a more open dialogue and allow for solutions to be explored in a comprehensive way.

Along with the benefits, several challenges of collaboration have been identified by both the city staff and scholars in the literature. First, a lack of resources such as time, knowledge, and funding is often a major hurdle that collaborative efforts confront. Group members need to find time and commit to the collaboration effort from start to finish and funding sources need to be maintained throughout the duration of the collaboration. A second major challenge involves trying to find an organizational structure that incorporates a variety of viewpoints and ideas. This challenge comes up

when there is a diverse set of stakeholders and/or individuals with different goals and personalities. Lastly, a common collaborative challenge revolves around attempting to agree on and commit to a group vision without asking stakeholders to shift their original principles (Wondolleck and Yaffe 2000).

City goals and visions as well as resident and commercial interests can be realized by cooperatively managing fragmented landscapes and multiple jurisdictions (Munroe et al. 2005). Managing these multiple interests can be guided by a collaborative exchange. To apply a collaborative landscape-level planning process to management means looking across the landscape, beyond political boundaries, to establish consistent policies and programs that manage fragmented landscapes. Shoreview is located in a region where there are numerous political boundaries and increasing fragmentation which often results in city goals being achieved only within these boundaries. Neighboring communities with similar goals and visions could become strong allies in their effort to promote landscape-level planning and policies. Recognition of these similar goals, visions, policies, and programs is a first step in this process.

## Class Vision Statement

We envision a sustainable Shoreview: a city that balances social equity, economic vitality, and environmental integrity to maintain and improve the quality of life for current and future residents. We aim to further enable Shoreview by:

- Providing relevant tools and information
- Encouraging an active and aware citizenry
- Addressing perceived barriers to action
- Fostering responsible and collaborative resource management

Our project strives to empower sustainable behavior and policy changes that will establish Shoreview as a model for other communities.

## Report Vision Statement

We hope to inform and advise Shoreview decision-makers within the realm of landscape-level planning and policies in order to assist the city in its ongoing environmental leadership.

## Objectives

To support this vision, our objectives are as follows:

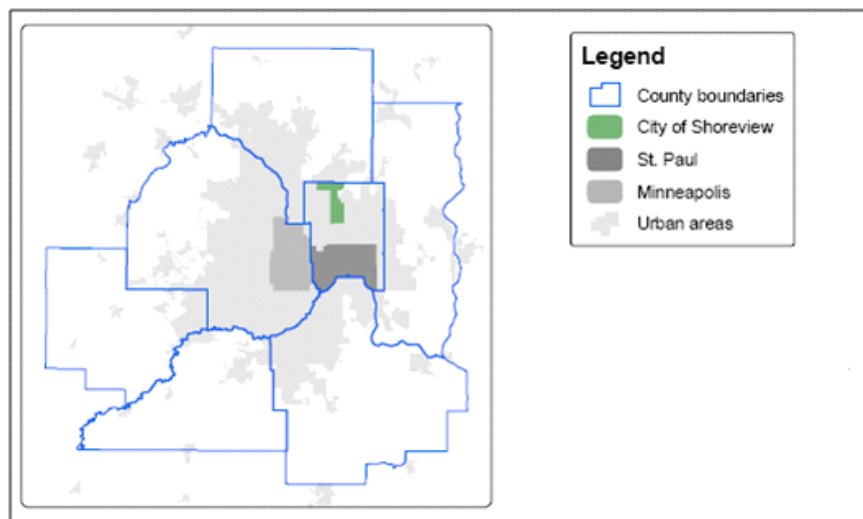
- Inventory plans and policies for neighboring municipalities.
- Identify opportunities and challenges for landscape-level stewardship of urban wetlands and forests.
- Recommend decision-making criteria and initial steps Shoreview can take to improve cooperation with neighboring municipalities to achieve landscape-level environmental services from urban forests and wetlands.

## Methods

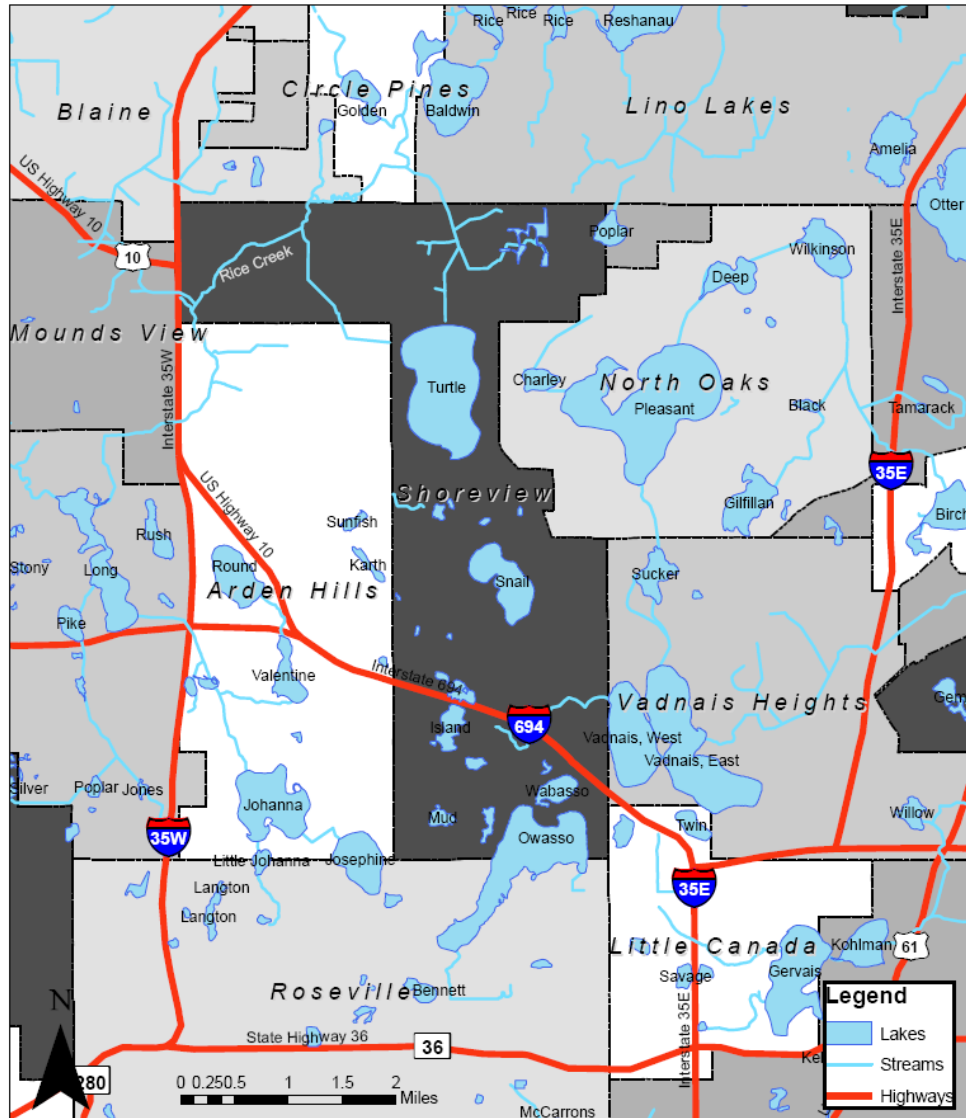
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### Site Description

The City of Shoreview is a fully developed second ring suburb located in the northern part of the Minneapolis-St. Paul metropolitan area in Minnesota (Figure 1). The city is relatively long and narrow from north to south covering 12.2 square miles with many major roadways bordering the city and running through it. Shoreview shares borders with nine primary municipalities, each of varying demographics, sizes, and levels of development (Figure 2).



**Figure 1:** Location of Shoreview in the Twin Cities Metropolitan Area (City of Shoreview, 2008).



**Figure 2:** Cities surrounding Shoreview, highways, and water bodies (Source: Metro GIS).

Based on the Shoreview Comprehensive Plan (2008), the city was incorporated in 1957 but developed in the 1970s and 1980s. This growth was dominated by residential development and the construction of public utilities including city water, sewer, and road systems. The city is made up of an aging population with a median age of 39.2 in 2000, up from 32.1 in 1990. Shoreview's growth is leveling off. The population growth rate between 2000 and 2006 was 1.66%, as compared to 5.6% between 1990 and 2000. The length of residency in the city is long lived, with 34% of residents having lived in the community for more than 20 years, and 72% indicating intention to live in the city for 10 additional years or more. Of Shoreview's residents, 96% of those over the age of 25 have a high school degree, and 46.9% hold a bachelors degree

or higher. Half of the city's residents leave Shoreview for work on a regular basis; the primary employment locations are Minneapolis, St. Paul, and Roseville.

Land use throughout Shoreview consists largely of single-family residential housing, parks, natural areas, and open space. Commercial and industrial uses are limited, consisting of only 5.5% of land use throughout the city. The natural and recreational spaces within the city are highly valued by its residents. In a 2005 survey of residents, more than 65% of residents identified parks and trails, as well as open space as a very important characteristic in Shoreview's quality of life (Decision Resources). This value can be attributed to the extensive system of Ramsey County parks and open space, as well as city parks, lakes, and streams within Shoreview. An important characteristic of these ecosystems is that, many of these valued resources span the borders of Shoreview into neighboring communities. Most notably, the watersheds within Shoreview bridge the city's boundaries, and so do major waterbodies in the city such as Rice Creek and Lake Owasso (Figure 2).

## Research Techniques

To gather the data necessary to formulate valid recommendations for the City of Shoreview, we used two data collection techniques, interviews, and document review. These techniques helped us gain insight into the goals and actions of surrounding municipalities, so that we could better understand the varying perspectives involved in past and possible future collaboration between these communities. We collected this data throughout the month of October 2009.

### Document Review

The first part of our research dealt with a document review for Shoreview and the surrounding municipalities of Arden Hills, Roseville, Little Canada, Vadnais Heights, North Oaks, Lino Lakes, Circle Pines, and Blaine. We split the document review into two categories, city codes and comprehensive plans. For the first category, we documented the presence or absence of city codes related to snow removal, residential lawn care and runoff, tree disease, invasive species, and deer management. Within each city's comprehensive plan, we documented the presence or absence of information related to the previous subjects, in addition to any mention of collaboration with surrounding municipalities, and the presence of general goals pertaining to the management of natural resources. We chose most of these topics because of their landscape-level nature. Deer management was selected because Shoreview identified it as an issue that needed to be addressed within the city with the help of its neighbors. With all of this information gathered, we were able to make general comparisons of environmental policies between the City of Shoreview and its

neighboring communities on broader landscape-level subjects. This allowed us to identify specific areas in which collaboration across borders could benefit multiple municipalities.

In addition to the city level, we sought out regional level ordinances and documented policies from Ramsey County. The documents we were interested in were those deemed to be relevant to snow removal, residential lawn care and runoff, tree disease, invasive species, and deer management. Since Ramsey County already operates in conjunction with several municipalities, their ordinances and policies gave us a better understanding of how these communities work together through the county. It also gave us an idea of how future collaboration may be facilitated with Ramsey County in mind.

## Interviews

We conducted interviews as a more qualitative approach regarding the policies of Shoreview and its surrounding municipalities, specifically those pertaining to stormwater management, shoreland management, tree diseases, and invasive species. Comprehensive plans, documented policies, and ordinances can only tell so much. The interview process gave us a chance to gain a more complete understanding of how these plans, policies, and ordinances are implemented within the communities, as well as how effective they are. We interviewed representatives from the City of Shoreview, Ramsey County, Rice Creek Watershed District, Grass Lake Watershed Management Organization, and each of the surrounding municipalities of Shoreview, including Arden Hills, Roseville, Little Canada, Vadnais Heights, North Oaks, Lino Lakes, Circle Pines, and Blaine (Appendix A). The job titles of interview subjects ranged from city planners, to city engineers, to environmental planners. Interviews were conducted either in person, or by telephone and lasted approximately thirty minutes to an hour. Interview subjects from each city and Ramsey County were asked the same set of general questions (Appendix B), although a variety of other subjects were also addressed specific to each interview. This is due only to the obvious differences in policies and interest in environmental landscape planning among different municipalities and regional-level organizations. Representatives of the watershed organizations were asked a separate set of questions (Appendix C). In the interviews with each city and Ramsey County, we asked representatives to rank their likelihood of working with the City of Shoreview on a list of environmental issues from one to ten, one being the most unlikely and ten being most likely. The issues we asked the representatives to rank were storm water management, tree disease, invasive species, and shoreland management. We chose to inquire on these particular issues because they were either, (1) identified by representatives of Shoreview as issues that needed

to be addressed or, (2) we determined them to be issues most likely to be dealt with across political boundaries. We also asked questions regarding existing forest and wetland policies, areas within the scope of environmental management that they believed to need improvement, the existence of committees or commissions devoted to environmental management or planning, and past or present collaboration with the City of Shoreview. We asked these questions to get a better sense of surrounding municipalities' existing environmental practices, as well as their past willingness to cooperate with the City of Shoreview.

## Findings

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Overall, our research shows that Shoreview and its surrounding municipalities have many things in common in terms of natural resource management, but there are also many differences. First, we found numerous points of commonality between Shoreview and surrounding municipalities' natural resource goals as expressed in their comprehensive plans. Second, many examples of collaboration exist among the cities surrounding Shoreview. Third, in the city codes we assessed, some areas of consistency as well as some areas of discrepancy exist. Last, many city representatives expressed interest in collaboration and cooperation between communities.

### Comprehensive Plans: Visions and Goals

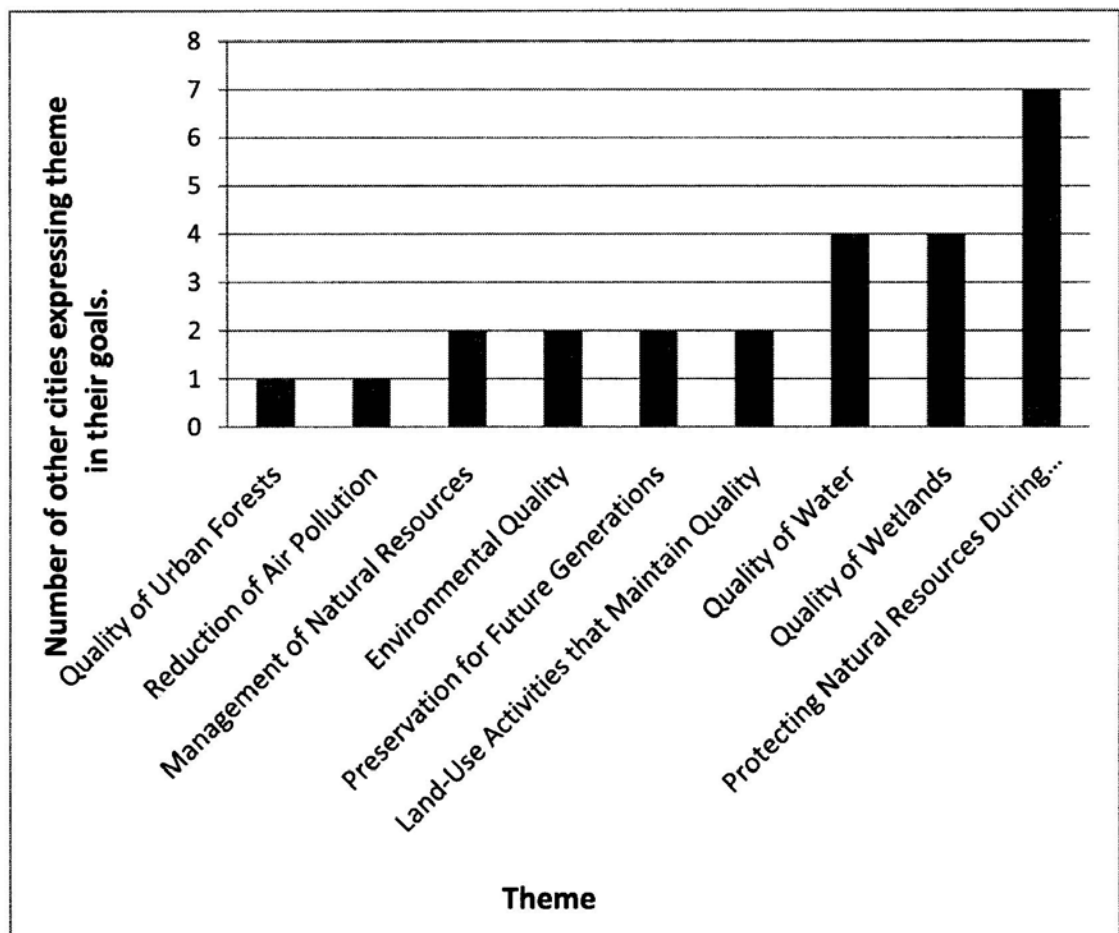
All the cities surrounding Shoreview have a stated goal which explicitly addresses environmental issues or natural resources which is documented in their comprehensive plans, with the exception of Little Canada (Appendix D). These goals come from very recent comprehensive plans, all of which were published within the last three years with the except for Mounds View's 2001 plan. Within these stated natural resource goals, there are many similarities in the topics addressed by Shoreview as well as its surrounding municipalities. To illustrate these similarities we present several topical words in Shoreview's comprehensive plan that are also included in the surrounding municipalities' comprehensive plans (Table 1). The most common words include natural, development, environment, and protect. These words are mentioned by the greatest number of cities, and they are also mentioned the greatest number of times, on average.

In addition, Shoreview's natural resources goals expressed in their comprehensive plan include several themes: quality of urban forests, reduction of air pollution, management of natural resources, environmental quality, preservation for future

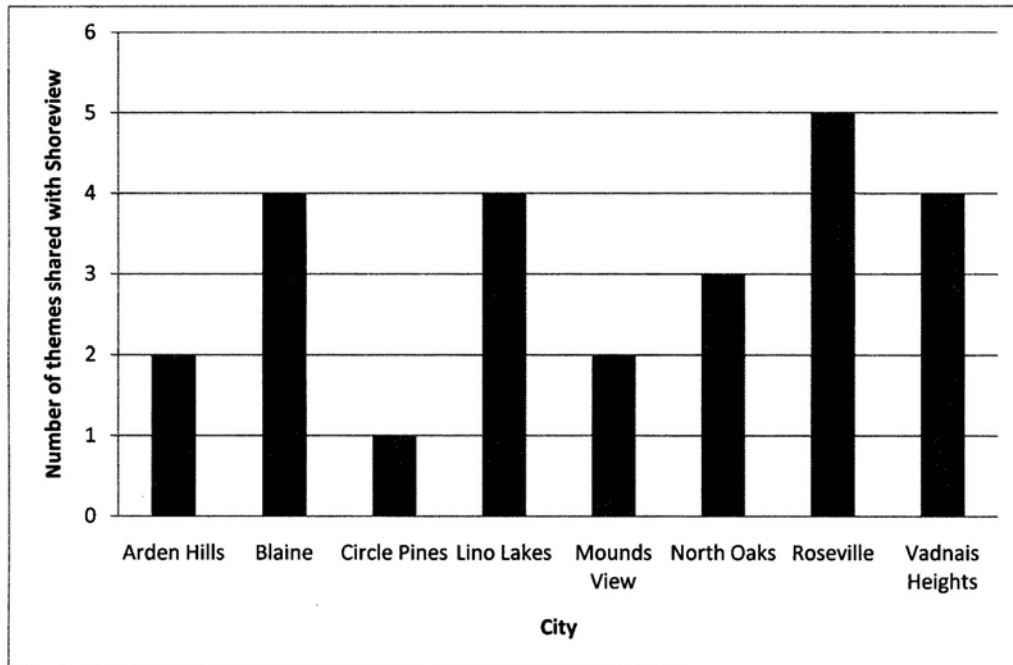
**Table 1:** Number of times topic words are used in municipal natural resource goals as stated in comprehensive plans, 2009.

Topical words	Average									
	Shoreview	Arden Hills	Blaine	Circle Pines	Lino Lakes	Mounds View	North Oaks	Roseville	Vadnais Heights	uses
Natural	3	1	3	2	5	2	2	1	4	2.6
Development	1	2	7	1	2	2	-	1	1	2.1
Environment	2	1	3	-	2	2	1	3	2	2.0
Protect	1	1	1	-	2	1	-	3	1	1.4
Quality	3	1	1	-	2	-	-	2	2	1.8
Wetlands	1	-	4	-	1	-	-	1	1	1.6
Resource	2	1	-	1	1	-	1	2	1	1.3
Maintain	2	-	-	-	2	1	-	1	-	1.5
Water	1	-	1	-	1	-	-	2	-	1.3
Land-use	1	1	2	-	-	1	-	-	-	1.3

generations, quality of water, quality of wetlands, and protecting natural resources during development. A number of cities share each of these goals with Shoreview (Figure 3). Protecting natural resources during development is the most common theme. Quality of urban forests and reducing air pollution are the least common themes—they are only mentioned by Blaine and Roseville, respectively. All themes in Shoreview’s natural resource goal are shared by at least one other surrounding city, but the number of shared themes varies greatly between cities. Roseville has the most themes in common with Shoreview (Figure 4). Circle Pines has the least themes in common with Shoreview. All cities expressing a natural resource goal in their comprehensive plan have at least one theme in common with Shoreview.



**Figure 3:** Number of cities that share common themes with Shoreview in their natural resource goals as expressed in their comprehensive plan (n=8), 2009.



**Figure 4:** The number of natural resource goal themes each city shares with Shoreview (n=8), 2009.

## Existing Collaboration

Currently, there are relationships and collaborative initiatives involving natural resources among Shoreview's neighboring municipalities, Ramsey County, Grass Lake Watershed Management Organization, and Rice Creek Watershed District. There are a variety of ways that these relationships are facilitated, and the degree to which they are fostered varies. These existing relationships between cities help to create and continue communication across boundaries. Additionally, the current relationships and communication that do exist can serve as both examples and starting points to expand communication and collaborative efforts.

Surrounding Shoreview, there are four examples where intercity and city-county relationships exist: shared city personnel, a shared natural resource, shared infrastructure, and shared community events. Sharing city personnel allows for an employee's knowledge, experience, and ideas to become part of each of the cities in which they are involved. For example, Roseville and Arden Hills share a city engineer. As a result, much of their storm water plans are similar. In another case, Mounds View and New Brighton share a forester. Consequently, many of their environmental programs and priorities are similar. The shared city official communicates with two adjacent communities to create consistency between the cities

they are employed by. This one person can serve as a liaison between communities to advocate similar ideas and initiate consistent policies and priorities within their scope.

A shared natural resource creates another opportunity where relationships can be shaped. For example, Lake Owasso is located in both Shoreview and Roseville. Communication regarding the lake's use and the water quality are issues that each of the municipalities are concerned with. While the ideas of how to address these issues may be similar, implementing them in each of the separate cities may be very different in practice.

Shared infrastructure creates an opportunity to foster a relationship. Roseville and Vadnais Heights share a sewer system while Shoreview and Lino Lakes share a water system. The sharing of equipment requires the exchange of information and the communication between cities to ensure that maintenance, costs, and public safety are addressed. Sharing a water system creates a situation where it is important to realize the effect of one city on the resource and, subsequently on other communities that use that resource.

The last example we found that helped to facilitate existing relationships among cities was when cities came together to sponsor and support an event. The cities of Arden Hills and Shoreview work together annually to carry out a community cleanup day. This is an event that allows residents to dispose of appliances, batteries, and other waste that cannot simply be put in the trash. The event entails planning across municipal boundaries and cooperating to put on a community event.

As reported across city representatives, existing relationships are generally going smoothly, because many times these relationships create mutually beneficial outcomes for the participating parties. Sharing information, personnel, and resources allows for sharing of the cost and responsibility as well. In general, however, these relationships revolve around a particular challenge and are not continued beyond that situation. Relationships tend to exist where there are challenges and there is a general mentality that if there is not an immediate challenge, there is no reason to communicate; "if it's not broken, why fix it?" thinking.

Watershed organizations as well as counties have been able to step in and foster programs that involve multiple municipalities encompassed within their boundaries. Watershed districts have the authority to regulate development across multiple jurisdictions, acquire and dispose of property, grant permits to residents, and create funding through property taxation authority (Minnesota Association of Watershed

Districts). The cities surrounding Shoreview are part of the Grass Lake Watershed Management Organization and Rice Creek Watershed District. These organizations provide the benefit of having uniform policies, goals, and authority. They also work to take some of the pressure off of the city, as far as enforcing water-related policies and implementing programs within the area they cover. Often these policies cross multiple municipal boundaries. The watershed organizations have experience implementing landscape-level policy and programs and may be a good resource for cities to turn to evaluate the concept further. The cities we spoke with all had working relationships with their watershed organizations. These relationships were viewed as positive associations from the cities' perspectives.

The degree to which the communities work with watershed organizations varies. Some use them as a partner in carrying out shoreland and wetland goals. For example, Arden Hills requires anybody requesting a new building permit to first establish communication with the watershed district before contacting the city for a permit. This helps to ensure that the city and the watershed district are on the same page and are both aware of activities that may affect the watershed. There are other communities that completely entrust their watershed organization to carry out water-related policies and programs. While this does create consistency across the watershed, it may inhibit city-to-city communication within the watershed and building effective programs specific to municipality's particular needs.

Ramsey County Parks and Recreation and the Public Works Department handle natural resource issues affecting the county land, including that in Shoreview. Therefore, there is the potential for having coordinated or contradictory policies and programs affecting adjacent lands. The county routinely works with cities and their respective policies and programs in order to work toward a common goal. For example, county roads have different snow removal policies than municipal roads. The county and cities generally have different snow removal standards and chemical treatment procedures. This can affect what kind of process is used, what chemicals are present, and how often snow removal is carried out.

Invasive species and tree diseases are also something that counties address. Naturally, much of the county resources are focused on county property, but they do provide some educational resources and programming to both residents and city officials within the county. This is a benefit that city officials have pointed to as helpful and informative. However, the county-centric focus can create a sense of detachment from city officials regarding county property. It can foster an attitude that if it is county

property, then it is the county's issues and not something the city can be concerned with.

Ramsey County has programs that address landscape-level issues that bring communities together. Their deer management plan involves several municipalities: Shoreview, Maplewood, Roseville, St. Paul, Vadnais Heights, and White Bear Township. This is an overarching governing body that provides education, expertise, and resources to the municipalities with the same end goal of managing deer at levels that minimize lawn damage, motor vehicle accidents, and deer health problems associated with high urban deer populations (Kilpatrick and Walter 2007). This county program is viewed favorably by the participating communities and is a good example of how the county can be an effective tool to establish a single program across municipal boundaries.

Overall, there are several existing relationships among communities, including Shoreview, that are effective and efficient. Often, however, the existing relationships are built around a singular issue and do not persist once the immediate problem has been resolved. Additionally, watershed organizations and county officials offer expertise, resources and are an entity that brings together municipalities under one program or policy. Many times, cities defer to the county or watershed organization on natural resource issues and therefore fail to communicate directly with each other. While these topics may fall under the county and watershed organization's responsibilities, exploring opportunities where municipalities can continue to collaborate may prove to be mutually beneficial to the parties involved.

## Continuity of Ordinances

In reviewing the ordinances for Shoreview and the cities surrounding it, we found some areas of consistency as well as some areas of discrepancy. Focusing on five landscape-level threats we found consistency in two issues, and inconsistency in three others (Table 2). Additionally, we found many areas of similarity and difference in the language of specific ordinances that address these issues.

First, the presence of a tree disease ordinance is consistent across all ten cities. All cities have a code that addresses tree disease and the removal of diseased trees. Tree disease is also addressed in similar ways by Shoreview and its surrounding cities. This is likely due to the presence of a variety of Minnesota Statutes that give cities authority to establish ongoing pest management programs and encourage them to do so (Minnesota Statutes 2009). All cities require the removal of some diseased trees from both public and private land, but the diseases that are included in these

requirements vary from city to city. Shoreview's tree disease ordinance explicitly addresses trees with Oak Wilt, Dutch Elm, as well as "any other epidemic diseases of shade trees" (§209.050C). Other cities tree disease ordinances address various combinations of diseases including Oak Wilt, Dutch Elm, Emerald Ash Borer, as well as other undefined diseases that may threaten the health of trees in the city (Table 3).

**Table 2:** Presence of an ordinance pertaining to five landscape-level issues in Shoreview and surrounding cities (Yes=present, No=not present), 2009.

	Residential				
City	Tree disease	lawn care / runoff	Invasive species	Deer management	Snow removal
Shoreview	Yes	Yes	No	Yes	No
Arden Hills	Yes	Yes	No	No	No
Blaine	Yes	No	No	No	No
Circle Pines	Yes	No	No	No	No
Lino Lakes	Yes	Yes	No	No	No
Little Canada	Yes	Yes	No	No	No
Mounds View	Yes	Yes	No	No	No
North Oaks	Yes	Yes	Yes	Yes	No
Roseville	Yes	Yes	No	No	No
Vadnais Heights	Yes	No	No	No	No
Tally	All yes	Mixed	Most no	Most no	All no

**Table 3:** Tree diseases addressed by Shoreview and surrounding municipalities' tree disease ordinance(x= presence of ordinance), 2009.

City	Dutch Elm	Oak Wilt	Emerald	
			Ash Borer	Any other tree disease
Shoreview	x	x		x
Arden Hills	x	x	x	
Blaine	x	x		x
Circle Pines	x	x		x
Lino Lakes	x	x		
Little Canada	x			
Mounds View	x	x		x
North Oaks	x	x		
Roseville	x	x		x*
Vadnais Heights	x	x		

\*As listed in Roseville's City Tree Plan.

The issue of residential lawn care and runoff is addressed by Shoreview and most of its surrounding cities. Of those cities that do have an ordinance or multiple ordinances that address these issues, the specific issues and degree to which they are prohibited vary greatly from city to city. In general, Shoreview addresses this issue by limiting

fertilizer usage, prohibiting the placement of vegetative material on impervious surfaces or in storm drainage systems, and restricting the removal of shoreline vegetation (§209.050D). The other cities addressing this issue in their code use a variety of similar prohibitions with the intention of limiting nutrient runoff into water bodies. Of these, Roseville and Shoreview have the most extensive ordinances addressing not only residential runoff and other lawn care practices that impact nutrient runoff. Other cities addressing lawn care have much more brief and general restrictions that pertain to a variety of issues including runoff, fertilizer use, and proper disposal of yard waste.

Control of invasive species, beyond those causing tree diseases, is not present in Shoreview's Code of Ordinance or in that of most neighboring municipalities'. North Oaks is the only city to mention invasive species management in its code, and it does so indirectly in the city's shoreline management ordinance. This ordinance requires that only nonnative vegetation can be removed within 20 feet of the ordinary high water mark of public water bodies (§ 153.052).

Ordinances pertaining to deer management are present in the codes of Shoreview and North Oaks. Shoreview's code contains provisions for the use of firearms in the Ramsey County deer management program (§604.050D), and it also prohibits feeding deer throughout the city (§601.130). Like Shoreview, North Oaks also prohibits feeding deer. North Oaks' code also contains a provision prohibiting persons from interfering with the city's deer management program (§ 90.01).

Last, none of the ten cities mention snow and ice removal and the use of salt or sand in their code. Although specific ordinance do not exist in any of the cities, many cities have separate plans or goals that address the use of sand and salt. For example, Little Canada recently decided to stop using sand in deicing during the winter. Additionally, many cities have tried to minimize the use of sand and salt during the winter due to both environmental and economic concerns. For example, Roseville takes pride in using a minimal amount of salt and sand while still maintaining safe roads. For Roseville, this is important both because it reduces runoff of salt and sand into water bodies, and it saves money.

## **Willingness and Interest in Collaboration**

Comprehensive plans from each of the surrounding municipalities of Shoreview demonstrate that there is a definite willingness, or at least an expressed interest, in collaborating with neighboring communities where feasible. Six out of the nine surrounding municipalities included either the word collaborate or cooperate in their

comprehensive plan in relation to natural resources (Appendix E). Those that did not, at least expressed some interest in collaboration during our interview process.

Six of the nine cities surrounding Shoreview mention the use of collaboration or cooperation in their comprehensive plan within the context of natural resources. Of these six cities, all plans express some sort of condition to collaboration (Table 4). Mounds View and Vadnais Heights' plans express that collaboration might exist when similar services, or overlap in services, occur between two neighboring communities. Little Canada and North Oaks' plans each mention that collaboration should be sought through public agencies such as watershed organizations. Arden Hills' plan mentions a willingness to collaborate, "where feasible," while Roseville's comprehensive plan simply states that they anticipate cooperation with surrounding communities. These six communities have made a point of including these conditions for cooperation and collaboration in their comprehensive plans, and therefore would be most likely to work with the City of Shoreview under their expressed conditions.

**Table 4:** Expressions of collaboration and willingness to collaborate by Shoreview and surrounding municipalities.

City	Expressions of collaboration in Comprehensive Plans		Willingness to collaborate on management areas based on staff interviews (10=most willing, 1=not willing)			
	Plan mentions collaboration/cooperation	Conditions	Storm water	Tree disease	Invasive species	Shoreland
Shoreview	Yes	Common, efficient, cost-effective solutions	9	10	5	2
Arden Hills	Yes	Where feasible	8	9	6	2
Blaine	No		1	8	8	1
Circle Pines	No		7	7	7	9
Lino Lakes	No		9	5	5	1
Little Canada	Yes	Through watersheds	10	5	5	5
Mounds View	Yes	Similar services	6	5	5	2
North Oaks	Yes	Through public agencies	1	8	8	1
Roseville	Yes	Anticipation of collaboration with surrounding communities	10	8	8	9
Vadnais Heights	Yes	Address community needs and minimize overlap	9	9	9	7
<b>Average (not including Shoreview)</b>			<b>6.8</b>	<b>7.1</b>	<b>6.8</b>	<b>4.1</b>

The cities of Lino Lakes, Circle Pines, and Blaine did not mention cooperation or collaboration in their comprehensive plans. However, this does not mean that they are unwilling to collaborate. In interviews, representatives from each of these municipalities expressed that if collaboration made sense, then they would be willing

to do so. In addition, each interviewed representative was asked to rank its city's likelihood of collaborating with Shoreview on the issues of storm water, tree disease, invasive species, and shoreland management. Circle Pines, Blaine, and Lino Lakes each expressed a strong likelihood of collaboration in at least one of these categories. Lino Lakes has a strong interest in collaboration in storm water management. Blaine expressed interest in collaboration with Shoreview on preventing the spread of tree disease and invasive species. Finally, Circle Pines expressed strong interest in working with Shoreview in all categories, but most likely on the issue of shoreland management through the Rice Creek Watershed District.

Of those municipalities who included collaboration or cooperation in their comprehensive plans, all of them expressed a strong likelihood of working with the City of Shoreview on at least one of the four issues of stormwater, tree disease, invasive species, or shoreland management. Roseville, Little Canada, Vadnais Heights, and Roseville representatives all rated their likelihood of collaboration with Shoreview on storm water management as very high. As far as tree disease and invasive species are concerned, each of the nine surrounding municipalities rated these issues at a five or above on a ten-point scale in regard to working with Shoreview. Shoreland management with Roseville is an additional area of potential collaboration. Roseville rated their likelihood to work with Shoreview on this issue at a nine, referring to the shoreland of Lake Owasso, which the two communities share.

Continual exploration of new landscape-level issues is an important aspect of finding collaborative issues that could be relevant to Shoreview and the surrounding municipalities. Urban deer management is a topic of interest for several city officials in Shoreview, and it was discussed in several of the interviews. Specifically, Arden Hills and Little Canada expressed interest in collaborating on deer management. Additionally, North Oaks has the most comprehensive ordinances regarding deer, and managing populations is an area of priority for the city. There have been a significant number of deer-vehicle collisions resulting in injuries, fatalities, and property damage in the state. According to the Minnesota Department of Public Safety, during the last three years there have been 9,820 vehicle crashes resulting in eighteen deaths. The deer populations in Minnesota have been decreasing, except for in the Twin City Metro Area, where there is limited hunting and there are no natural predators to control deer populations. Deer collisions alone accounted for more than \$33.7 million in damage last year and that does not account for the landscaping and other property damage (Powell 2009). Our interviews with municipalities and data collected by the Minnesota Department of Public Safety indicate that deer population

management is a topic ripe for deliberation and action, and interest in collaboration exists among several of stakeholders we spoke with.

Overall, our findings show that there is much willingness to cooperate with Shoreview on a variety of different issues. Though each surrounding city has their own priorities, there are some consistencies in the findings. The strongest include the likelihood of working with Shoreview on deer management, invasive species and tree disease prevention.

## **Recommendations**

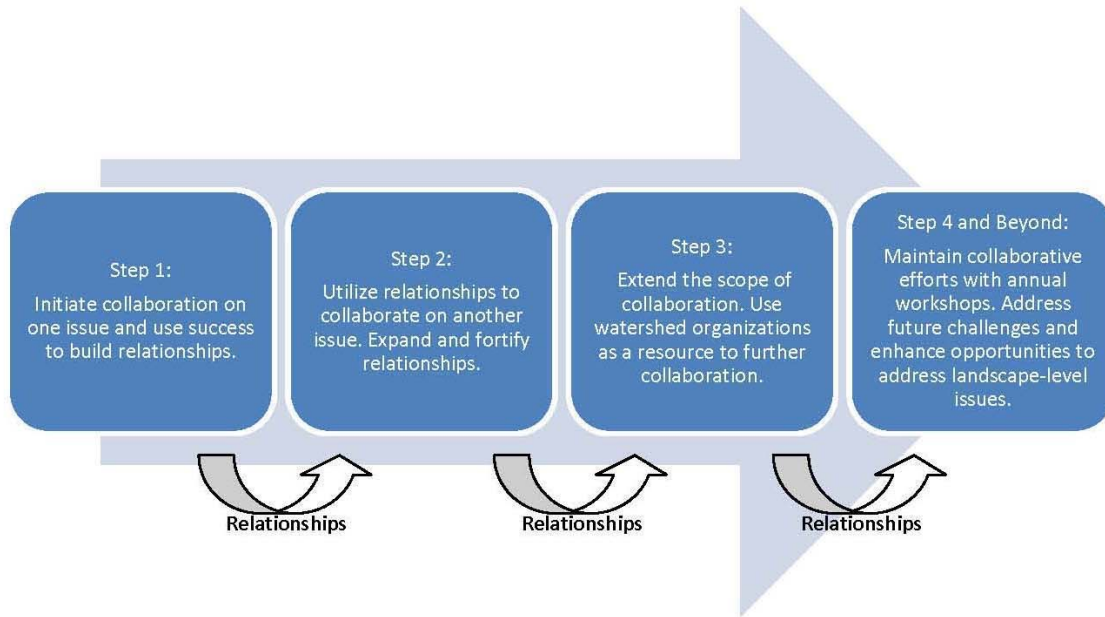
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Landscape-level planning, while challenging, can have many benefits when accomplished through collaboration. These four steps are intended to increasing collaboration among municipalities, counties, and watershed organizations with the greater goal of landscape-level planning and policy in mind (Figure 5). Through utilizing these stages to increase collaboration all municipalities have an opportunity to benefit and improve the health of their natural resources. These stages include the following recommendations:

1. Focus initially on a current topic having clear benefits from collaboration such as deer management.
2. Utilize relationships initiated in deer management efforts to address other landscape-level issues while expanding and fortifying relationships.
3. Expand work with watershed organizations to further collaboration with surrounding communities.
4. Maintain collaborative efforts toward landscape-level planning by holding annual workshops to continue relationships for future challenges.

### **Recommendation 1: Focus initially on a current topic having clear benefits from collaboration such as deer management**

The visions and goals of Shoreview and the surrounding municipalities hold natural resources in high regard. Initially, deer management may seem to conflict with this vision. However, the need to manage urban deer populations may be recognized after understanding the negative effects of an abundant deer population on urban and suburban property, motor vehicle safety, as well as starvation and other negative influences on individual deer health.



**Figure 5:** Diagram of recommended steps towards landscape-level planning and policy.

Deer population management has been identified as a topic of interest among several of the municipalities surrounding Shoreview. It is also an issue that is landscape-level in nature, and benefits of collaboration can be made clear. This topic came up in several interviews with city planners and natural resource workers and in some cases, deer is explicitly managed for. Some cities that are not currently managing for deer cite a lack of resources, personnel, authority, and ability to manage a deer population that migrates beyond their borders. We found that the possibility of sharing costs associated with deer management is a primary interest in some cities and has the potential to spark interest, participation and collaboration with Ramsey County and among communities surrounding and including Shoreview.

The migrating behaviors and ecology of deer populations create a unique opportunity to introduce landscape-level planning across municipal boundaries. As stated by a North Oaks representative, “Deer don’t know what town they’re in!” Therefore, to create an effective solution for deer management, cities could collaborate on the topic to address deer management on a landscape level. A possible outcome from collaboration is a regional understanding of current deer management practices, the feasibility of implementing efforts on a landscape scale, and potential locations for

management across city borders. If addressed, these issues have the opportunity to enhance the benefits of management for all cities involved.

The well-being of communities' residents, specifically damage to their property, is of high concern for city and county officials. Ramsey County has noted a recent increase in the number of complaints about deer ruining landscaping and posing a fatal threat on roadways. As noted by the Shoreview City Forester, "I just wish I could tell the people complaining [about deer] that we're doing something about it...but right now, that's not the case." Collaborating around deer management could allow cities to enhance safety and develop political capital with residents by offering them an effective and efficient solution.

The method of managing deer populations will likely be an issue that introduces controversy. Ramsey County currently uses bow and arrow hunts to control the population on county land. Other potential methods for management include sharp-shooting by professional companies, sterilizing female deer, and trapping and transporting deer to a different location. Deciding on which method to use across the landscape may involve several meetings of city officials, county officials, residents, and those who are involved in carrying out these deer management methods. Each of the methods has benefits and drawbacks, and each presents unique challenges and opportunities to be examined during a collaborative exchange. Shoreview's residents value their natural resources according to the resident survey (Decision Resources 2005). Thus, it is likely that there may be opposition from residents who enjoy watching deer and seeing them in their yards and in parks. In this case, it could be effective to emphasize the idea that there are ecological limits to the number of deer an area can support. After this threshold is reached, starvation and disease become more frequent and a slow death may follow (Kilpatrick and Walter 1997). Additional detriments from urban deer populations include increased motor vehicle collisions with deer in the metro area and property damage to lawns and ornamental shrubbery. Such factors can be used to inform residents and educate them about the benefits of deer control, possibly reducing public opposition.

Wildlife management is a county mandate. It is important, however, to underscore the importance of municipal participation and support with deer management. In general, the county has legal authority and more resources than cities do. County property is often surrounded by city or private property, and the county can be limited in their ability to affect change on deer populations if they only work on their land and with their resources. An organized exchange of information and resources, as well as access to sites that are key locations for deer habitation and reproduction, could be a

possible outcome of a landscape-level deer management program. The result could be increased efficiency and a reduction in economic and aesthetic losses from deer browsing. Additionally, an improvement in road safety could be achieved by reducing the risk of accidents and potential fatalities caused by deer crossings on busy roads.

## **Recommendation 2: Utilize relationships initiated in deer management efforts to address other landscape-level issues while expanding and fortifying relationships**

To further collaboration toward a goal of increased landscape-level planning and policy, the relationships built through initial collaboration on deer management could be used to collaborate on other issues. An issue ripe for collaboration is tree disease management (See Report 7/8). Tree disease was identified as another topic of concern among city officials in and around Shoreview (Table 4). Of particular interest was prevention of a major disease outbreak, managing an outbreak quickly and efficiently in order to minimize the negative effects on trees in the region. Currently, there are some discrepancies between city ordinances. Namely, these discrepancies concern the tree diseases that each city regulates for (Table 3). Creating a more consistent foundation of ordinances, communication exchange, and reporting methods could help in efficient and effective mitigation in the case of a tree disease infestation in the region.

It is important to address tree disease at a landscape level because diseases travel across borders and can affect trees on city, county and private land alike. Tree disease issues are typically addressed by the same personnel or department within the city and county who handle deer management issues. Therefore, there will likely be an underlying relationship from the deer management collaboration on which to build, and achieving success during initial collaborative efforts such as deer management would create an important foundation on which to build.

An additional benefit of addressing tree disease after deer management is that some of the information overlaps. For example, understanding where there are contiguous pieces of forested land is likely to be evaluated when looking at deer management. When addressing tree disease management, this information is likely to be relevant and helpful. Establishing who owns land and gauging the willingness to carry out management actions will likely have been established during the deer management collaboration.

Determining priorities and establishing consistent management efforts will allow for more congruent management practices and policies across municipal and county

borders. Additionally, a similar message across municipal lines offers benefits to the residents and their understanding of the problem. Consistent management strategies employed across the landscape place consistent expectations on residents of different municipalities. This can assist residents in understanding the purpose and importance of tree disease management practices and where to turn for answers. If resources are coordinated throughout the landscape, residents will be able to obtain the same information that has been disseminated across adjacent municipalities.

Private property management presents unique opportunities and challenges. Residents may be hesitant to allow outside organizations to manage tree diseases on their property. Educating residents about the importance of prevention and early detection of tree disease outbreaks would be an initial step for residents to understand the rationale behind management practices. Demonstrating and informing residents of the aesthetic, environmental, and economic benefits of proactive management of tree disease may help persuade them to participate. Additionally, having similar management strategies across the landscape will allow residents to have a stake in and perhaps influence their neighbors' actions regarding tree disease management.

Tree disease management also presents many other challenges. First of these challenges is the uncertainty that surrounds tree diseases. Tree diseases can be difficult to predict and even more difficult to diagnose, treat, and prevent. This uncertainty presents a challenge with planning and logistics on who, what, where and how tree diseases should be addressed. Also, the fact that tree diseases can affect large regions makes tree disease management a daunting task, but cooperating, coordinating, and communicating may help to smooth this process and make the task more manageable. Additionally, it is important to note that eradication of tree disease may be all but impossible. Instead, tree disease must be managed for, and limited resources must be strategically used to address this task.

The coordination of efforts among cities and the counties is an additional issue that could arise. Tree diseases have the ability to travel between cities and between city and county property. City and county foresters, natural resource specialists, and planners could work together to address tree disease with a united effort. This may allow for an efficient and effective solution that relies on information, communication, and collaboration. Once again, the city to city and city to county relationships formed during the deer management efforts could be utilized and further nurtured when addressing tree disease management.

### Recommendation 3: Expand work with watershed organizations to further collaboration with surrounding communities

The ecology of water, just as the ecology of deer and tree disease, moves across political boundaries. This aspect of water behavior is a reason for the existence of watershed organizations. The majority of Shoreview's land area is within the jurisdiction of Grass Lake Watershed Management Organization and Rice Creek Watershed District. One of the main charges of these organizations is to preserve and restore water quality across municipal borders.

As expressed in our findings, residential lawn care and run off policies vary greatly between Shoreview and many of its surrounding municipalities. While Shoreview has several ordinances that aim to decrease nutrient runoff into water bodies (see Report 3/8), most surrounding municipalities do not have these extensive regulations. Due to the connectivity of wetlands and water bodies, Shoreview's actions and its residents' choices can only go so far in decreasing total nutrient runoff and improving water quality. It is advantageous for Shoreview to promote policies that decrease nutrient runoff beyond their borders.

Expanding work with these watershed organizations could facilitate communication and cooperation between Shoreview and its surrounding municipalities as well as help create policies that apply to a broader portion of the landscape. Such policies could include landscape wide education programs on shoreland management or lawn care. Collaborative incentive programs that aim to decrease nutrient runoff into water bodies could also be facilitated through work with watershed organizations.

A potential challenge to this recommendation is motivating cities and watershed organizations to participate in taking on additional work. A possible way to address this challenge may be to highlight the positive aspects of involvement across cities. Residents may not know what watershed they are in, but will know what city they are in. Therefore, they may be more willing to identify and comply with suggestions from their city versus from the watershed organization. Another potential challenge is finding willingness to collaborate, particularly when neighboring cities fall within different watershed organizations. This could be overcome by stressing the connectivity between watersheds and how they have an effect on one another. Even though watershed organizations already plan on a greater landscape-level than municipalities, promoting further collaboration among organizations could be beneficial.

#### Recommendation 4: Maintain collaborative efforts toward landscape-level planning by holding annual workshops to continue relationships for future challenges

The relationships established thus far have been surrounding current environmental challenges that are facing the communities today. It is important to understand that new challenges and opportunities will continue to evolve into the future. Providing a mechanism to address these challenges proactively and with a united effort will be critical in developing institutional resilience and adaptability for moderating future issues. Holding an annual workshop that addresses natural resource and planning issues could be an effective way to facilitate this process. Attendees to this workshop could include watershed officials and local government personnel who work with forestry, public works, planning, natural resources, and parks.

The workshop could be used to integrate natural resource planning visions and goals and be a means to communicate about present and future concerns. Each year, a unique topic could be selected based on its ability to attract other stakeholders. The workshop could be an efficient method for introducing and molding new ideas for decision-makers within local governments. Additionally, the monitoring and reporting on other issues could be done during the workshop as a way to talk about successes and challenges as a group.

The workshops could serve as a tool for communicating about an issue that is affecting several of the stakeholders to some degree. If others are having similar issues and if there is a possibility for cooperation, pooling of resources may allow for a more efficient, cost-effective solution. It could also lead to a more effective solution and better morale. For example, when two municipalities border the same natural resource, they could have competing or inconsistent policies across political boundaries. It was indicated in interviews that cities may be more willing to implement and enforce policies if the neighboring community has similar policies and thus similar outcomes from the policies. Many of our interviewees wondered out loud why they would spend money on natural resource protection or management when their immediate neighbors are not doing anything about it. This workshop could work to prevent this rationale for non-action.

In addition to maintaining relationships, the annual workshop could increase landscape-level planning in all directions to create an even more comprehensive planning process. The workshop could be a way to allow other cities to see what Shoreview and their neighbors are doing and how participating in the event may

benefit other cities in reaching their goals. In a sense, the workshop could be a way to publicize and reach out to other communities to talk about how Shoreview and the surrounding communities have worked to plan on a landscape level.

A potential challenge that may come up is motivating communities to participate, especially initially. Providing incentives to the cities, counties, and watersheds for supporting their personnel to participate in these workshops could be a way to overcome this challenge. Incentives could range from providing relevant grant information, receiving continuing education units and potential cost-sharing, and resource-pooling with the surrounding communities. Overall, the workshop could be used as an example for other communities interested in landscape-level planning, demonstrating the benefits and challenges of collaborating on issues; it could serve as a prototype for other communities in Minnesota dealing with similar issues. The workshop could allow Shoreview to continue its leadership role regarding natural resources and highlight their willingness to take action. Furthermore, the workshop could be used as an example of something tangible and take credit for initiating something so unique. Eventually, this workshop could become an annual community event to be looked at as a significant advancement in the way that landscape-level issues are handled, not only in the Shoreview area, but nationwide.

## Conclusions

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Many environmental problems cannot be solved without collaboration with surrounding communities, which is why functioning relationships among Shoreview and bordering municipalities are crucial to finding effective solutions. To have successful environmental policies that are both effective and sustainable, a landscape-level approach that reaches beyond the political boundaries of Shoreview is an important foundation. To strengthen and otherwise utilize these relationships, we suggest that Shoreview find a common environmental issue and goal amongst surrounding communities, such as deer management, to set a precedent for cooperation across city boundaries. From there, success in the handling of deer management creates relationships that can be used to address other landscape-level environmental issues identified as priorities by surrounding municipalities. Issues we recommend focusing on include: preventing the spread of tree-disease and creating more consistent lawn care and runoff guidelines within watersheds, and participating with public agencies such as watershed organizations.

Additionally, we recommend Shoreview promote the continuation of a collaborative approach by bringing representatives from surrounding municipalities together in an annual workshop to share information and identify new environmental challenges to undertake via a landscape-level approach. This has the potential to create ongoing community collaboration that can assist in addressing environmental issues across political borders.

Finally, we recommend a landscape-level approach for Shoreview and the surrounding communities as they deal with environmental issues, simply because most environmental problems cannot be solved without enlarging the scope to cover multiple municipalities. Deer do not see political boundaries, tree diseases do not stop once they reach the next city, and runoff within watersheds flow through multiple communities. Therefore, because of the landscape-level nature of these issues, solutions must transcend municipal borders. This is why collaboration with surrounding communities is so crucial, because a landscape-level approach is truly the only way to deal with a wealth of environmental issues.

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## Appendix A: List of Contacts

Name	Organization	Title	Phone	Email
James Lehnhoff	Arden Hills	AICP, Community Development Director	651-792-7819	james.lehnhoff@ci.arden-hills.mn.us
Meagan Beekman	Arden Hills	City Planner/Recycling Coordinator	651-792-7828	meagan.beekman@ci.arden-hills.mn.us
Bryan Schafer	Blaine	Planning and Community Development Director	763-785-6144	bschafer@ci.blaine.mn.us
Rich Lavell	Circle Pines	Public Works Superintendent	763-231-2606	rlavell@ci.circle-pines.mn.us
Len Ferrington	Grass Lake Watershed Management Organization	Board Member	612-624-3265	ferri016@umn.edu
Marty Asleson	Lino Lakes	Environmental Coordinator	651-982-2434	marty.asleson@ci.lino-lakes.mn.us
Bill Dircks	Little Canada	Public Works Superintendent	651-766-4049	bill.dircks@ci.little-canada.mn.us
Heidi Heller	Mounds View	Planning Associate	763-717-4022	heidi.heller@ci.mounds-view.mn.us
Nick DeBar	Mounds View	Director of Public Works	763-717-4051	Nick.DeBar@ci.mounds-view.mn.us
Melinda Coleman	North Oaks	City Administrator	651-792-7750	mcoleman@cityofnorth-oaks.com
John Moriarty	Ramsey County	Natural Resource Specialist	651-748-2500	john.moriarty@co.ramsey.mn.us
Kyle Axtel	Rice Creek Watershed District	Water Resource Specialist	763-398-3072	kaxtell@ricecreek.org
Duane Schwartz	Roseville	Public Works Director	651-792-7041	duane.schwartz@ci.roseville.mn.us
Tim Benetti	Vadnais Heights	Vadnais Heights	651-204-6023	tbenetti@ci.vadnais-heights.mn

## Appendix B: City and County Staff Interview Questions

Interview Contact:\_\_\_\_\_

Interview by:\_\_\_\_\_

1. Does the city have any developed management tools (ordinances, program, policies) concerning

- **Stormwater?**
- **Forest management (tree diseases and pests)?**
- **Invasive species?**
- **Shoreland management?**

2. Do any of these have dedicated budgets?

Where do the resources to carry-out these programs come from?

3. Are there any forest or wetland management practices that the city takes pride in that can be a model for neighboring municipalities?

4. Are there any areas you feel you could improve on?

5. Does your city have any organized committees or commissions specifically focused on environmental management and/or planning?

6. Have you ever worked with Shoreview or other neighboring municipalities on any past projects? How would you describe the results?

7. How likely would you be to work with Shoreview and/or other surrounding communities on a scale of 1 to 10 on the following issues:

- **Stormwater? 1.....2.....3.....4.....5.....6.....7.....8.....9.....10**
- **Tree disease? 1.....2.....3.....4.....5.....6.....7.....8.....9.....10**
- **Invasive species? 1.....2.....3.....4.....5.....6.....7.....8.....9.....10**
- **Shoreland management? 1.....2.....3.....4.....5.....6.....7.....8.....9.....10**

8. What type of communication or collaboration do you have with your watershed district and county?

## **Appendix C: Watershed Organization Interview Questions**

Interview Contact: \_\_\_\_\_

Interview by: \_\_\_\_\_

1. To what extent do you work with individual municipal governments on watershed issues?
2. What were the results?
3. Do you see any potential opportunities for landscape-level planning on watershed issues that are not currently addressed?
4. Do you see any potential challenges for addressing landscape-level planning on watershed issues?
5. Watersheds have become a necessary entity for planning. To what do you attribute this progression, how did the watershed grow to such an important role?
6. What would you consider your primary goals?
7. Do these goals tend to line up with municipal goals? Where is there consistency? Where is there conflict?

## **Appendix D: Natural Resource Goals as Stated in Comprehensive Plans**

### ***Shoreview***

1. Manage the City's natural resources so that environmental quality is maintained and enhanced for future generations.
2. Maintain or improve the quality of the water, wetlands, urban forest, and other natural features within the City.
3. Provide for development and redevelopment in a manner that protects the City's natural resources and environment.
4. Reduce air pollution and ensure that land use activities maintain air quality standards.

### ***Arden Hills***

Develop and maintain a land use pattern that strengthens the vitality, quality, and character of our residential neighborhoods, commercial districts, and industrial areas while protecting the community's natural resources and developing a sustainable pattern for future development.

### ***Blaine***

1. A plan, both physical and financial, should be developed for the large 500-acre City owned wetland/natural area lying north of 109th Avenue. The area should be examined for development of trail linkages, nature demonstration areas, wildlife viewing, and passive natural recreation opportunities including wetland, animal and plant habitat restoration. (Also a Parks, Trails, and Recreation and Land Use goal)
2. Promote preservation of the natural environment to protect trail and greenway corridors, preserve and conserve open space, provide appropriate public access, and offer environmental education opportunities. New development areas such as Pheasant Ridge Business Park and Finn Farm development should be designed to take advantage of the open space and wetland areas and enhance those areas as amenities for the community. (also a Parks, Trails, and Recreation and Land Use goal)
3. The City will develop and promote policies as well as Best Management Practices which address environmental concerns, including: recycling, conservation, water quality, flooding, wellhead protection, open space, pollution, toxic wastes, wildlife, wetlands, and woodlands and low impact development standards for new

development and redevelopment where appropriate. (also a Water Supply and Stormwater goal)

### ***Circle Pines***

Natural Resource Preservation and Management: To continue to preserve and conserve natural resources and open space within the city and to partner with Anoka County Parks to on developing and implementing stewardship programs in as cost effective way as possible.

### ***Lino Lakes***

1. Protect the environmental quality of Lino Lakes while accommodating moderate growth.
2. Preserve the open character of Lino Lakes through the preservation of natural open space and the establishment of greenway corridors.
3. Promote biodiversity through the use of native plant materials and other materials where appropriate.
4. Utilize the Chain of Lakes Regional Park as an aesthetic and recreational community amenity while preserving the park's natural biosystems.
5. Integrate new development with the City's natural environment in a compatible manner.
6. Maintain and when feasible, improve the City's water resources.
6. Protect and maintain natural wetlands, ponding areas, and drainage ways in an effort to establish a community-wide storm drainage system.
7. In planning development consider possible effects on the natural plant and animal populations, particularly species of special concern.

### ***Little Canada***

None Stated

### ***Mounds View***

1. Maintain a cohesive land use pattern that ensures compatibility and functional relationships between activities and uses.
2. Preserve and protect property values.
3. Ensure that community development is compatible with features of the natural environment and is accommodated without destroying desirable environmental features and natural amenities.

4. Prevent development that is not accompanied by a sufficient level of supportive and service facilities (utilities, parking, access, etc.).

### ***North Oaks***

Every attempt has been and continues to be made to preserve the existing physical and environmental characteristics that have made North Oaks unique in its abundance of natural resources. To help retain these natural resources, the warranty deeds for the transfer of individual properties from the North Oaks Company to subsequent owners contain restrictive easements.

### ***Roseville***

The preservation, protection, and enhancement of natural resources are vital a community's health and residents' quality of life:

1. Protect, preserve, and enhance Roseville's water, land, air, and wildlife resources for current and future generations.
2. Maintain the functions and values of the City's drainage features (e.g. lakes, ponds, and wetlands).
3. Prevent erosion into the City's lakes, ponds, and wetlands.
4. Minimize the public capital expenditures needed to correct flooding and water-quality issues.
5. Ensure the City takes a leadership role in environmentally friendly property development, redevelopment, and maintenance practices.
6. Reduce negative human impacts on the environment through citywide energy conservation and reduction of pollution and waste.
7. Increase community awareness of environmental protection issues.

### ***Vadnais Heights***

Vadnais Heights is blessed with an abundance of natural beauty and environmentally sensitive areas. The lakes, wetland, and vegetated areas are an integral part of the city and provide a home to a variety of plant and animal life. These natural areas also serve as a source for recreational and aesthetic benefits for residents and visitors alike. Protection of these sensitive areas not only allows them to be enjoyed for generations to come, but also contributes to the quality of life for Vadnais Heights' residents today. The purpose of this section of the comprehensive plan is to identify areas of high environmental and natural resource value. Often these features will limit the intensity and location of development in adjacent areas. However, preserved natural areas provide recreational opportunities and contribute to a high quality of life for local residents.

## Appendix E: Comprehensive Plan Review Compiled Results

Comprehensive Plan Review										
City	Mention Collaboration or Cooperation in a Natural Resource Context:			Mention Landscape-Level Issues						
	Cooperate	Collaborate		Snow Removal / Deicing	Residential Lawn Care / Runoff	Tree Disease	Other Invasive Species	Deer Management	Presence of Natural Resource Goal	
Shoreview	Yes	No		No	Yes	Yes	Yes	Yes	Yes	
Arden Hills	Yes	No		No	No	No	Yes	No	Yes	
Blaine	No	Yes		No	Yes	No	Yes	No	Yes	
Circle Pines	No	No		No	No	No	No	No	Yes	
Lino Lakes	No	No		No	Yes	Yes	Yes	No	Yes	
Little Canada	Yes	Yes		Yes	Yes	Yes	Yes	No	No	
Mounds View	Yes	No		No	No	No	No	No	Yes	
North Oaks	No	No		No	No	Yes	Yes	No	Yes	
Roseville	Yes	Yes		Yes	Yes	No	Yes	No	Yes	
Vadnais Heights	Yes	Yes		No	Yes	No	No	No	Yes	

## **Appendix F: Complete Document Review Tables**

This CD-Rom contains a Microsoft Excel spreadsheet with all information collected during our document review. Within the Excel book, there is a sheet that summarizes the data we found. There is also a sheet for each city which contains language and locations of city codes we used in this report. Language from each city's comprehensive plan that contains words or topics of interest to this report is also included.